

### Pachytene Analysis in Two Triploid Interspecific Hybrids in Phaseolus

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Pachytene pairing was studied in triploid hybrids of Phaseolus mungo x tetraploid Phaseolus species cross and tetraploid Phaseolus species x P. calcaratus cross. The unidentified tetraploid species is described by Dana (1964) in Nucleus 7:1-10. Pollen fertility in these two hybrids were 0.83 and 10.7 percent, respectively. Meiosis was regular in the three parental species. Eleven bivalents and eleven univalents were noted in most of the PMCs in the two hybrids. Few cells had a quadrivalent or a trivalent. Chromosome bridges were observed in few other cells. Pachytene analysis has showed that eleven or more chromosomes remained unpaired in all the cells. Differential segments (i.e. unpaired regions), small duplications, translocation and paracentric inversion configurations were observed in many cells. It has been concluded that the tetraploid species is digenomic in origin and it has further differentiated from the related diploid species through structural changes in chromosomes.

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### Pachytene Analysis in Two Diploid Interspecific Hybrids in Phaseolus

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Chromosome pairing at pachytene was not complete in diploid hybrids of Phaseolus aureus with P. mungo and P. calcaratus. Pollen fertility in these two hybrids were 26.5 and 0.5 percent, respectively. Meiosis was normal in the three parental species. Few unpaired chromosomes at pachytene were noted in many cells in the two hybrids. Differential segments, small duplications, translocation and paracentric inversion configurations were noticed in many cells in both the hybrids. This study has indicated that structural alterations have differentiated the chromosomes in these diploid species.

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### Inheritance of Resistance to Yellow Bean Mosaic Virus in Snap Beans

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There have been many reports on resistance to yellow bean mosaic virus in beans. The Great Northern UI 31 and runner beans P. coccineus have been reported as the best sources of resistance to YBMV. P. coccineus sources cover the range of BYMV strains more completely. Inheritance studies by Bagget and Frazier have indicated resistance is due to three recessive genes.